COMPACT multiframe structure examples

In the figures, the 52-multiframe number (MFN) shall have a range of 0 to 3 and can be calculated from the TDMA frame number (FN) as follows:

 $MFN = (FN \text{ div } 52) \mod 4$

For COMPACT, timeslot mapping and rotation of the control channels is used such that control channels belonging to a serving time group are rotated over odd timeslot numbers as follows: 7, 5, 3, 1, 7, 5, The rotation occurs between frame numbers (FN) mod 52 = 3 and 4. The timeslot mapping and rotation of the control channels in this manner allows the mobile station to measure the received signal level from surrounding cells in its normal measurement window. Since the rotation repeats itself every 208 frames, the 52-multiframe number (MFN) allows the mobile station to determine its location in the time group rotation during selection and re-selection.

The following relates to Figures D.1 through D.7:

- i) $B(x)^y = time group y uses CPBCCH in block x.$
- ii) $C(x)^y = \text{time group y uses CPCCCH in block x.}$
- iii) PTCCH = PTCCH as normal
- iv) CFCCH^y = time group y uses CFCCH.
- v) CSCH^y = time group y uses CSCH.
- vi) IDLE = idle burst.
- vii) $X^y =$ block designated as idle for time group y.
- viii) Empty = used for traffic as normal.

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Figure D.1: COMPACT downlink 52-multiframe structure using 4 time groups for nominal cells (based on an assignment of 1 CPBCCH and 3 CPCCCHs with NIB_CPBCCH_0 = NIB_CCCH_1 = NIB_CCCH_2 = NIB_CCCH_3 = 4). NIB_CCCH is not broadcast for serving cell time group.

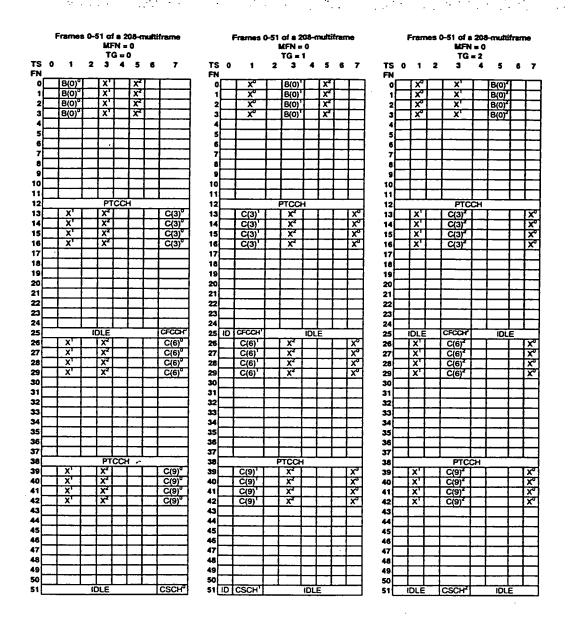


Figure D.2: COMPACT downlink 52-multiframe structure using 3 time groups for nominal cells (based on an assignment of 1 CPBCCH and 3 CPCCCHs with NIB_CCCH_0 = NIB_CCCH_1 = NIB_CCCH_2 = 4, NIB_CCCH_3 = 0). NIB_CCCH is not broadcast for serving cell time group.

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Figure D.3: COMPACT downlink 52-multiframe structure using 4 time groups for large cells (based on an assignment of 1 CPBCCH and 3 CPCCCHs with NIB_CCCH_0 = NIB_CCCH_1 = NIB_CCCH_2 = NIB_CCCH_3 = 4). NIB_CCCH is not broadcast for serving cell time group.

Figure D.4: COMPACT downlink 52-multiframe structure using 3 time groups for large cells (based on an assignment of 1 CPBCCH and 3 CPCCCHs with NIB_CCCH_0 = NIB_CCCH_1 = NIB_CCCH_2 = 4, NIB_CPBCCH_3 = 0). NIB_CCCH is not broadcast for serving cell time group.

s 52-103 of a 208-multiframe

Figure D.5: Example of COMPACT downlink timeslot mapping and rotation of control channels using 4 time groups for nominal cells (based on an assignment of 1 CPBCCH and 3 CPCCCHs with NIB_CCCH_0 = NIB_CCCH_1 = NIB_CCCH_2 = NIB_CCCH_3 = 4). TG = 0 is illustrated. NIB_CCCH is not broadcast for serving cell time group.

NOTE: For uplink 52-multiframe structure (based on an assignment of 16 prioritized CPRACHs, see subclause 6.3.2.2.3a), replace B() by R() where R() denotes CPRACH, move down one block, and rotate according to subclause 6.3.2.1. Replace C() by R() and move down one block. CPRACH in general can be mapped as PRACH in Clause 7 Table 6.

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Figure D.6: Example of COMPACT downlink timeslot mapping and rotation of control channels using 3 time groups for nominal cells (based on an assignment of 1 CPBCCH and 3 CPCCCHs with NIB_CCCH_0 = NIB_CCCH_1 = NIB_CCCH_2 = 4, NIB_CCCH_3 = 0). TG = 0 is illustrated. NIB_CCCH is not broadcast for serving cell time group.

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Figure D.7: Example of COMPACT downlink timeslot mapping and rotation of control channels using 4 time groups for nominal cells (based on an assignment of 1 CPBCCH and 3 CPCCCHs with NIB_CCCH_0 = NIB_CCCH_2 = NIB_CCCH_3 = 4, NIB_CCCH_1 = 5). TG = 0 is illustrated. NIB_CCCH is not broadcast for serving cell time group.

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